

ABSTRACT OF THE DISCLOSURE

A detection system for monitoring a subject remains outside the normal field of view of the subject by using a wavelength selective optical member. In one application, an eye of a driver is repeatedly or continuously illuminated and imaged without effect on the field of view of the driver. A dichroic mirror may be used to provide the wavelength selectivity. For the application in which the system is used for a motor vehicle, such as an automobile, the dichroic mirror may be achieved by coating a portion or all of the windshield so as to pass visible light, while reflecting detection light. Other applications of the detection system include monitoring a subject engaged in a person-to-person interaction, wherein a dichroic mirror is defined by a divider between the two persons.